In The Claims:

1. (previously amended) An electrostatic discharge (ESD) protection circuit, suitable for use on the I/O pad, the ESD protection circuit comprising:

a silicon controlled rectifier (SCR) circuit, which comprises a first connection terminal, a second connection terminal, and a third connection terminal, wherein the first connection terminal and the second connection terminal are respectively connected to the I/O pad and a ground voltage, so as to discharge the electrostatic charges; and

an anti-latch-up circuit, which comprises a fourth connection terminal, a fifth connection terminal, and a sixth connection terminal, respectively coupled to a voltage source, the ground voltage, and the third connection terminal of the SCR circuit, whereby an anti-latch-up signal is sent from the sixth connection terminal to the SCR circuit.

2. (original) The ESD protection circuit of claim 1, further comprising:

a first diode, having a first input end and a second input end, respectively connected to the ground voltage and the I/O pad; and

a second diode, having a first input end and a second input end, respectively connected to the I/O pad and a voltage source.

3. (original) The ESD protection circuit of claim 1, wherein the SCR circuit comprises:

a P-type substrate;

an N well, formed in the p-type substrate;

a first P+ doped region, formed in the P-type substrate and coupled to the ground voltage;

a first N+ doped region, formed in the P-type substrate, adjacent to the first P+ doped region, and coupled to the ground voltage;

a second N+ doped region, formed between the P-type substrate and the N well, adjacent to the first N+ doped region, and coupled to the sixth connection terminal of the anti-latch-up circuit;

a second P+ doped region, formed in the N well, adjacent to the second N+ doped region, and coupled to the I/O pad; and

a third N+ doped region, formed in the N well, adjacent to the second P+ doped region, and coupled to the voltage source.

4. (original) The ESD protection circuit of claim 3, wherein the anti-latch-up circuit comprises:

a capacitor, having a first contact end and a second contact end, respectively coupled to the second N+ doped region and the ground voltage; and

a resistor, having a first end and a second end, respectively coupled to the voltage source and the second N+ doped region.

Claims 5-12 (withdrawn)

13. (new) The ESD protection circuit of claim 1, wherein the anti-latch-up signal sent from the sixth connection terminal to the SCR circuit comprises a voltage signal.

14. (new) The ESD protection circuit of claim 1, wherein the sixth connection terminal of the anti-latch-up circuit is directly coupled to the third connection terminal of the SCR circuit.